when said driving signal is offset from said voltage source by a voltage less than said first threshold voltage;

driving, with said driving signal, a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage and connected between said node and said voltage source, said second switchably conductive device responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to and greater than said second threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said second threshold voltage.

B3

REMARKS

Claims 1-11 are pending in the application and are presented for reconsideration. Claims 1, 2, 3, 5 and 7 have been amended to clarify that the switchably conductive devices conduct when the driving voltage is greater than or equal to the character threshold voltage of the respective device. Support for these amendments may be found in the application on page 9, lines 14-28. Claims 4, 6 and 8-11 remain in the application unchanged. An annotated version of the amendments is attached hereto for the Examiner's review.

No new matter has been added.

Drawings

The Applicant hereby submits a substitute FIG. 6. FIG. 6 has been amended to correct a typographical error in box 80, replacing the word "ON" with the word --OFF--, and to clarify that the devices being turned on/off are the devices having the associated characteristic threshold voltage, as described in detail in the specification. Support for these amendments may be found in the specification on page 9, lines 14-28. A redlined copy is included for the Examiner's review.

Claim Rej ctions

Claims 1, 3-4, and 7-8 are rejected under 35 U.S.C. § 102(b), as being anticipated by US Patent No. 5,568,062 to Kaplinsky.

Claims 10-11 are rejected under 35 U.S.C. § 102(b), as being anticipated by US Patent No. 5,877,647 to Vajapey et al.

Claims 2, 5-6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,568,062 to Kaplinsky in view of US Patent No. 5,877,647 to Vajapey et al.

I. Rejections of Claims Under 35 U.S.C. § 102

1. Legal standard for Rejecting Claims Under 35 U.S.C. §102

Under 35 U.S.C. § 102, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628 (Fed. Cir.), *cert. denied*, 484 U.S. 827 (1987).

2. Response to 35 U.S.C. § 102 Rejections

a. Claims 1-4, 7-8

Claim 3 recites:

> An apparatus for reducing the slew rate of transition edges of a digital signal on a node of an integrated circuit, comprising:
>
> a first switchably conductive device characterized by a first threshold voltage, said first switchably conductive device connected between said node and a voltage source and responsive to a driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to and greater than said first threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said first threshold voltage; and
>
> a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage, said second switchably conductive device connected between said node and said voltage source and responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to and greater than said second threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said second threshold voltage.

The Applicant respectfully traverses the rejection of claim 3 under 35 U.S.C. § 102(b). Kaplinsky does not meet the limitations in lines 5-10 and lines 14-19 of claim

3. In particular, Kaplinsky does not teach or suggest the limitation "a first switchably conductive device ... to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to and greater than said first threshold voltage". In formulating the rejection of claim 3, the Examiner seeks to equate Kaplinsky's transistor 17 with Applicant's "first switchably conductive device" and Kaplinsky's input 22 with Applicant's "driving signal".

However, this equivalence cannot stand. Kaplinsky's transistor 17 allows current conduction when: node 38 is greater than the threshold voltage of transistor 17. Node 38 is greater than the threshold voltage of transistor 17 when the input 22 is low (below the transition voltage of translator buffer 29 - i.e., below approximately 1.5 to 2.0 V) and signal S2 is low and signal buffer enable signal OE' (active low) is low. Signal S2 is low when the output 20 is equal to or above 1.0V (i.e., the transition voltage of the NOR gate 71) and buffer enable signal OE' is low. Accordingly, transistor 17 conducts only when the input 22 is less than or equal to the transition voltage of translator buffer 29 (approximately 1.5-2.0V) and the output signal 20 has not yet fallen below 1.0V. Accordingly, when the *input* 22 is above the transition voltage of the translation buffer 29 (approximately 1.5-2.0V), S2 is low, and therefore (assuming the output buffer is enabled (i.e.., OE' is low)), transistor 17 is off (i.e., not conducting).

As known in the art, the threshold voltage of an n-type transistor is typically between 0.3 and 0.7 V. Clearly, when the proposed driving signal (input 22) is greater than the transition voltage of the translation buffer 29 (approximately 1.5-2.0V), the proposed driving signal (input 22) is also greater than the threshold voltage of the proposed first switchably conductive device (transistor 17). However, due to the structure of Kaplinsky's circuit, transistor 17 is not allowed to conduct. Accordingly, Kaplinsky does not meet the limitation of Applicant's claim 3 of "a first switchably conductive device characterized by a first threshold voltage, said first switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said first threshold voltage*".

Kaplinsky also does not teach or suggest the limitation "a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage, said second switchably conductive device ... to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to and greater than said second threshold voltage". The Examiner seeks to equate Kaplinsky's transistor 15 with Applicant's "second switchably conductive device " and Kaplinsky's input 22 with Applicant's "driving signal".

However, Kaplinsky's transistor 15 allows current conduction when: node 36 is greater than the threshold voltage of transistor 15. Node 36 is greater than the threshold voltage of transistor 15 when the input 22 is low (below the transition voltage of translator buffer 27 - i.e., below approximately 1.5 to 2.0 V) and signal buffer enable signal OE' (active low) is low. Accordingly, when the *input* 22 is above the transition voltage of the translation buffer 27 (approximately 1.5-2.0V), (and assuming the output buffer is enabled (i.e.., OE' is low)), transistor 15 is off (i.e., not conducting).

Clearly, when the proposed driving signal (input 22) is greater than the transition voltage of the translation buffer 27 (approximately 1.5-2.0V), the proposed driving signal (input 22) is also greater than the threshold voltage (between approximately 0.3-0.7 V) of the proposed second switchably conductive device (transistor 15). However, due to the structure of Kaplinsky's circuit, transistor 15 is not allowed to conduct. Accordingly, Kaplinsky does not meet the limitation of Applicant's claim 3 of "a second switchably conductive device characterized by a second threshold voltage, said second switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said second threshold voltage*".

In addition, Kaplinsky also does not teach or suggest the limitation "a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage, said second switchably conductive device ... to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said second threshold voltage".

Transistor 15 conducts when node 36 is above the characteristic threshold voltage of transistor 15. Node 36 is above the characteristic threshold voltage of transistor 15 when the input 22 is below the transition voltage of translator buffer 27 (below approximately 1.5 to 2.0 V) and signal buffer enable signal OE' (active low) is low. Accordingly, transistor 15 is conducting when the *input* 22 is below the characteristic threshold voltage of transistor 15 (typically 0.3-0.7V) since transistor 15 conducts when the input 22 is below the transition voltage of the translation buffer 27 (approximately 1.5-2.0V), assuming the output buffer is enabled (i.e.., OE' is low)). This is quite the opposite of what Applicant's claim 3 recites - that is, that the second switchably conductive device is *disallowed from conducting* when the driving signal is less than the threshold voltage of the device. (Note: Even if the output buffer is disabled (i.e.., OE' is high) while input 22 is low, node 36 is pulled high by transistor 35, which also ensures that transistor 15 is *conducting*.) Clearly, Kaplinsky therefore does not meet the limitation of Applicant's claim 3 of "a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage, said second switchably conductive device … to *disallow said current conduction* when said *driving signal* is offset from said voltage source by a voltage *less than said second threshold voltage*".

Again, as described in the Response dated April 22, 2002, Kaplinsky also does not teach or suggest that the threshold voltages of the two transistors 15 and 17 are actually different from one another. In response to the Applicant's arguments presented in the above-mentioned Response, the Examiner refers to MPEP 2112.01 which states that when the structure recited in the claim is substantially identical to that of the reference, claimed proprieties and functions are presumed to be inherent and the Applicant has the burden of showing that the reference circuit does not possess the properties/functions which are recited in the claim. Accordingly, the Examiner states that in order for the argument to be persuasive, the Applicant needs to show that, in all cases, the claimed circuit is not anticipated by the Kaplinsky circuit when transistors 15 and 17 having different sizes are used, i.e., in all cases, picking two transistors 15 and 17 having different sizes to implement the Kaplinsky circuit, these transistors must not possess the properties, which have different threshold voltages, recited in the claim.

However, as described in detail above, the structure recited in claim 3 is ***not*** *substantially identical* to the circuit in the Kaplinsky reference. In particular, Kaplinsky does not teach any identical structure that can be equated with Applicant's "driving signal" that meets the limitations "a first switchably conductive device characterized by a first threshold voltage, said first switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said first threshold voltage*" or "a second switchably conductive device characterized by a second threshold voltage, said second switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said second threshold voltage* and to *disallow said current conduction* when said *driving signal* is offset from said voltage source by a voltage *less than said second threshold voltage*". Accordingly, since the claimed structure is not substantially identical to that of Kaplinsky, the claimed properties and functions cannot be presumed to be inherent, and Examiner has not met the requirement for shifting the burden of showing that the reference circuit does not possess the properties/functions which are recited in the claim.

It is well-settled in the law that "the fact that a certain result or characteristic *may* occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. *The mere fact that a certain thing may result from a given set of circumstances is not sufficient.*' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Furthermore, "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristic *necessarily* flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

The Examiner states that the limitation requiring the first and second switchably conductive device characterized by a first and second respective threshold voltage is met because the size of transistor 15 is different from the size of transistor 17. However, Kaplinsky, col. 5, lines 6-9 state that "Each of these output transistors (15 and 17) may be formed by a set of parallel transistors all sized at about 20/0.8". As stated in the Applicant's Response of April 22, 2002, the threshold voltage of transistor 15 having dimensions 120/.8 and transistor 17 having dimensions 680/.8 may be identical if in fabrication, the circuit is implemented using only 20/.8 FETs, where transistor 15 is fabricated using 6 20/.8 FETs in parallel while transistor 17 is fabricated using 34 20/.8 FETs. In this case, as taught and suggested by the Kaplinsky reference itself at col. 5, lines 6-9, the threshold voltage V_T will be the *same* for both transistors 15 and 17. Accordingly, if implemented in this manner, *as suggested in the Kaplinsky reference itself*, it does ***not*** *necessarily flow that* the threshold voltages of transistors 15 and 17 are different. Since different threshold values are not *necessarily* present in the Kaplinsky reference, per *In re Robertson*, *supra*, inherency, however, may not be established. Accordingly, nowhere does the Kaplinsky reference teach or suggest that the threshold voltages of the two transistors 15 and 17 are actually different, either expressly or inherently.

In summary, Kaplinsky does not meet the limitations of Applicant's claim 3, including "a first switchably conductive device *characterized by a first threshold voltage*, said first switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said first threshold voltage*" or "a second switchably conductive device *characterized by a second threshold voltage greater than said first threshold voltage*, said second switchably conductive device ... to *allow current conduction* from said voltage source to said node *when said driving signal* is offset from said voltage source by a voltage substantially equal to and greater *than said second threshold voltage* and to *disallow said current conduction* when said *driving signal* is offset from said voltage source by a voltage *less than said second threshold voltage*". Per *Verdegaal Bros., Inc. v.*

Union Oil Co., supra, since Kaplinsky does not teach each and every element as set forth in claim 3, either expressly or inherently, a rejection of claim 3 in view of Kaplinsky is improper and the rejection of claim 3 under 35 U.S.C. § 102(b) should be withdrawn.

As per claim 4, claim 4 recites the same limitations as claim 3 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 3, Kaplinsky also does not therefore meet the limitations of claim 4. Accordingly, the Applicant respectfully submits that the rejection of claim 4 under 35 U.S.C. § 102(b) should be withdrawn.

As per claim 1, claim 1 recites similar limitations as claim 3, in method form, including "a first switchably conductive device characterized by a first threshold voltage ... to allow current conduction from said voltage source to said node when said first input signal is offset from said voltage source by a voltage substantially equal to and greater than said first threshold voltage and to disallow said current conduction when said first input signal is offset from said voltage source by a voltage less than said first threshold voltage" and "a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage ... to allow current conduction from said voltage source to said node when said second input signal is offset from said voltage source by a voltage substantially equal to and greater than said second threshold voltage and to disallow said current conduction when said second input signal is offset from said voltage source by a voltage less than said second threshold voltage". For the same reasons that Kaplinsky does not meet the limitations of claim 3, Kaplinsky also does not therefore meet the limitations of claim 1. Accordingly, the Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn.

As per claim 2, claim 2 recites the same limitations as claim 3 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 1, Kaplinsky also does not therefore meet the limitations of claim 2. Accordingly, the Applicant respectfully submits that the rejection of claim 2 under 35 U.S.C. § 102(b) should be withdrawn.

As per claim 7, claim 7 recites similar limitations as claim 3, including "a first switchably conductive device characterized by a first threshold voltage ... to allow

current conduction from said voltage source to said node when said first input signal is offset from said voltage source by a voltage substantially equal to and greater than said first threshold voltage and to disallow said current conduction when said first input signal is offset from said voltage source by a voltage less than said first threshold voltage" and "a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage ... to allow current conduction from said voltage source to said node when said second input signal is offset from said voltage source by a voltage substantially equal to and greater than said second threshold voltage and to disallow said current conduction when said second input signal is offset from said voltage source by a voltage less than said second threshold voltage". For the same reasons that Kaplinsky does not meet the limitations of claim 3, Kaplinsky also does not therefore meet the limitations of claim 7. Accordingly, the Applicant respectfully submits that the rejection of claim 7 under 35 U.S.C. § 102(b) should be withdrawn.

As per claim 8, claim 8 recites the same limitations as claim 7 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 7, Kaplinsky also does not therefore meet the limitations of claim 8. Accordingly, the Applicant respectfully submits that the rejection of claim 8 under 35 U.S.C. § 102(b) should be withdrawn.

b. Claims 10-11

Claim 10 recites:

> A method for controlling the slew rate of transition edges of a digital signal on a node of an integrated circuit, said method comprising the steps of:
> monitoring a level of a driving voltage;
> when said level reaches a first threshold voltage, stepping down conduction of current to said node;
> when said level reaches a next predefined threshold voltage, stepping down conduction of current to said node.

The Examiner cites Vajapey in rejecting Claims 10 and 11 under 35 U.S.C. § 102(b). In particular, the Examiner states that Vajapey teaches the steps of monitoring a level of a driving voltage (use the threshold voltages of transistors P1 and P2 as first and second threshold levels), when the level reaches a first threshold voltage, stepping down conduction of current to said node (gradually turn off the

conduction of transistor P1), and when the level reaches a next predefined threshold voltage (the second threshold level), stepping down conduction of current of said node (gradually turn off the conduction of transistor P2).

The Applicant respectfully traverses the Examiner's argument that P1 and P2 in Vajapey have different sizes and therefore different threshold voltages. To the contrary, as shown in FIG. 3, the width/length of both P1 and P2 are identical (i.e., 1.2) to one another. In the alternative embodiment shown in FIG. 6, the width/length of both P1 and P2 are again identical (i.e., 0.8) to one another. Applicant again submits that Vajapey does not teach or suggest that P1 and P2 have different thresholds. The Applicant respectfully requests the Examiner to specifically point out where in the Vajapey reference it indicates that P1 and P2 are of different sizes and that they have different threshold voltages.

However, even if (for argument's sake only) the characteristic threshold voltages of P1 and P2 were different, Vajapey's circuit still does not use the characteristic threshold voltages of P1 and P2 to determine when to step up or step down the current conduction through P1 and P2. Accordingly, the limitations of Applicant's claim 10 are still not met.

The Examiner alleges that Vajapey's circuit uses the threshold voltages of transistors P1 and P2 as the first and second threshold levels. However, in the case of turning P1 and P2 on (i.e., when the output terminal 160 is to be driven low-to-high), P1 is turned on *automatically* after a predetermined delay generated by transient control circuit 130 (which ensures that N1 and N2 are off prior to turning on P1 and P2), (*See Vajapey*, col. 3, lines 54-57; col. 4, lines 3-19). In particular, at col. 4, lines 58-63, Vajapey specifically states that "After a short *delay* induced by transient control 130, transistors P1 and P2 are turned on to charge output terminal 160. However, the turn-on of transistor P2 is *delayed for a period of time* after the turn-on of transistor P1. After the voltage on *output terminal 160* reaches a predetermined voltage, transistor P2 is turned on". Accordingly, contrary to the Examiner's assertion, Vajapey does *not* base the turning on of P1 and P2 on the characteristic threshold voltages of the devices P1 and P2. The above described operation is further supported at Vajapey, col. 5, lines 23-38. In particular, Vajapey specifically describes the use of a level detector 322 which senses the voltage on the

output terminal 160 and compares it to a high threshold voltage to determine when to turn on P2. When the voltage level on the output terminal 160 reaches the high threshold voltage, P2 is turned on.

In view of the above, Vajapey does not meet the limitation "monitoring a level of a driving voltage" since Vajapey actually monitors the voltage level of the *output* terminal 160 rather than the *driving* voltage.

In addition, Vajapey does not meet the limitation "when said level reaches a first threshold voltage, stepping down conduction of current to said node". First, in the case of turning *on* P1 and P2 (i.e., when the output terminal 160 is to be driven low-to-high), P1 is turned on automatically by the orchestration of the slew rate and state control 124 and transient control 130, and completely without dependency on any first threshold voltage. Second, when P1 is turned on, conduction of current to the output terminal 160 is stepped *up* and not down.

In the case of turning *off* P1 and P2 (i.e., when the output terminal 160 is to be driven high-to-low), the low signal on input terminal 112 causes the output of NAND gate 300 to go high, which is inverted by inverter 201 to thereby cause signal OP2* to go high, turning off P2. Simultaneously, the output of inverter 201 is inverted by inverter 204 to thereby cause signal OP1* to go high, turning off P1. As seen in FIG. 4, when the signal 512 on the input terminal 112 transitions high-to-low (which causes P1 and P2 to be turned off and N1 and N2 to be turned on), signals OP1* and OP2* go high simultaneously (see points 522 and 524); accordingly, P1 and P2 are turned off simultaneously. (See Vajapey, col. 6, lines 19-22, "Time 522 and 524 are approximately the same times"). Accordingly, when the transistors P1 and P2 are turned off (i.e., current conduction is stepped down), the step-down occurs simultaneously and does not depend at all on the respective threshold voltages of P1 and P2. Accordingly, even in the case of turning *off* P1 and P2, Vajapey does not meet the limitation "when said level reaches a first threshold voltage, stepping down conduction of current to said node" as recited in Applicant's claim 10.

Vajapey also does not meet the limitation "when said level reaches a next predefined threshold voltage, stepping down conduction of current to said node" as recited in claim 10. First, in the case of turning *on* P1 and P2 (i.e., when the output terminal 160 is to be driven low-to-high), as described above, Vajapey turns on P2

when the output terminal reaches a predetermined high voltage level. The predetermined high voltage level cannot be equated with a "second threshold voltage" because as just described, Vajapey does not teach a "first threshold voltage" since P1 is turned on automatically and not based on any threshold voltage. Second, when P2 is turned on, conduction of current to the output terminal 160 is stepped *up* and not down.

In the case of turning *off* P1 and P2 (i.e., when the output terminal 160 is to be driven high-to-low), as described above, P1 and P2 are turned off simultaneously. Accordingly, when the transistors are turned off (i.e., current conduction of P1 and P2 is stepped down), the step-down occurs simultaneously and does not depend at all on the respective threshold voltages of P1 and P2. Accordingly, there is no equivalent of a "next predefined threshold voltage". Therefore even in the case of turning *off* P1 and P2, Vajapey does not meet the limitation "when said level reaches a next predefined threshold voltage, stepping down conduction of current to said node" as recited in Applicant's claim 10.

In summary, nowhere in the Vajapey reference is there mention that the threshold voltages of the two transistors P1 and P2 are actually different. All indications, including the identical sizings of the P1 and P2 transistors as shown in FIGS. 3 and 6, support that the threshold voltages of P1 and P2 are identical. In addition, P1 and P2 are turned off simultaneously, while the delay in turning on P2 after P1 is caused not by the characteristic threshold voltages of P1 and P2, but by the voltage level on the input terminal 112 and output terminal 160. Accordingly, Vajapey does not meet the limitations of Applicant's claim 10, including "monitoring a level of a driving voltage", "when said level reaches a first threshold voltage, stepping down conduction of current to said node", and "when said level reaches a next predefined threshold voltage, stepping down conduction of current to said node". Per *Verdegaal Bros., Inc. v. Union Oil Co., supra*, since Vajapey does not teach each and every element as set forth in claim 10, either expressly or inherently. The rejection of claim 10 under 35 U.S.C. § 102(b) in view of Vajapey is improper and should be withdrawn.

As per claim 11, claim 11 recites the same limitations as claim 10 and adds additional limitations. For the same reasons that Vajapey does not meet the

limitations of claim 10, Vajapey also does not therefore meet the limitations of claim 11. Accordingly, the Applicant respectfully submits that the rejection of claim 11 under 35 U.S.C. § 102(b) should be withdrawn.

II. Rejections of Claims Under 35 U.S.C. § 103

1. Response to Rejections of Claims Under 35 U.S.C. § 103

As per claim 5, claim 5 recites the same limitations as claim 3 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 3, Kaplinsky also does not meet the limitations of claim 5. For reasons set forth with respect to claim 10 above, Vajapey does not make up for the deficiencies of claim 3. Accordingly, Kaplinsky in view of Vajapey still does not meet the limitations of claim 5. Accordingly, the Applicant respectfully submits that the rejection of claim 5 under 35 U.S.C. § 103(b) should be withdrawn.

As per claim 6, claim 6 recites the same limitations as claim 3 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 3, Kaplinsky also does not meet the limitations of claim 6. For reasons set forth with respect to claim 10 above, Vajapey does not make up for the deficiencies of claim 3. Accordingly, Kaplinsky in view of Vajapey still does not meet the limitations of claim 6. Accordingly, the Applicant respectfully submits that the rejection of claim 6 under 35 U.S.C. § 103(b) should be withdrawn.

As per claim 2, claim 2 recites the same limitations as claim 1 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 1, Kaplinsky also does not meet the limitations of claim 2. For reasons set forth with respect to claim 10 above, Vajapey does not make up for the deficiencies of claim 1. Accordingly, Kaplinsky in view of Vajapey still does not meet the limitations of claim 2. Accordingly, the Applicant respectfully submits that the rejection of claim 2 under 35 U.S.C. § 103(b) should be withdrawn.

As per claim 9, claim 9 recites the same limitations as claim 3 and adds additional limitations. For the same reasons that Kaplinsky does not meet the limitations of claim 7, Kaplinsky also does not meet the limitations of claim 9. For reasons set forth with respect to claim 10 above, Vajapey does not make up for the deficiencies of claim 7. Accordingly, Kaplinsky in view of Vajapey still does not meet

the limitations of claim 9. Accordingly, the Applicant respectfully submits that the rejection of claim 9 under 35 U.S.C. § 103(b) should be withdrawn.

The application is now believed to be in condition for allowance.

III. Entry of Amendment After Final Rejection Under 37 C.F.R. § 1.116

The claims have been amended merely for formality to clarify that the switchably conductive devices remain conducting so long as the driving voltage is offset from the source voltage by an amount greater than the characteristic threshold voltage of the respective device. It is notoriously well-known in the art that such switchably conductive devices such as the transistors 114, 134, 124, 144 used in the preferred embodiment of the invention operate in such a manner. Furthermore, throughout the specification and drawings (e.g., FIG. 3A, 3B, and 6), devices 114, 134, 124, 144 operate to remain on once above/below their respective NFET/PFET threshold value. Accordingly, the Applicant submits that the structure and operation of Applicant's claimed invention has not changed and that a new search is therefore not required.

Accordingly, the Applicant respectfully submits that entry of this Amendment after Final Rejection is proper under 37 C.F.R. § 1.116.

CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that none of the references cited by the Examiner taken alone or in any combination shows, teaches, or discloses the claimed invention, and that Claims 1-11 are in condition for allowance. Reexamination and reconsideration are respectfully requested.

Should the Examiner have any questions regarding this amendment, or should the Examiner believe that it would further prosecution of this application, the Examiner is invited to call the undersigned.

Respectfully submitted,

July 31, 2002

Jessica J. Costa

Jessica J. Costa, Reg. No. 41,065

The Law Offices of Jessica Costa, PC
501 Collings Avenue
Collingswood, New Jersey 08107
Tel.: (856) 854-3999
Fax: (856) 858-2167

Am ndments

In the Claims:

Please amend the claims as follows:

1. (Amended) A method for reducing the slew rate of transition edges of a digital signal on a node of an integrated circuit, comprising:

connecting a first switchably conductive device characterized by a first threshold voltage between said node and a voltage source, said first switchably conductive device responsive to a first input signal to allow current conduction from said voltage source to said node when said first input signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said first threshold voltage and to disallow said current conduction when said first input signal is offset from said voltage source by a voltage less than said first threshold voltage;

connecting a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage between said node and said voltage source, said second switchably conductive device responsive to a second input signal to allow current conduction from said voltage source to said node when said second input signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said second threshold voltage and to disallow said current conduction when said second input signal is offset from said voltage source by a voltage less than said second threshold voltage; and

connecting a driving signal as said first input signal of said first switchably conductive device and as said second input signal of said second switchably conductive device.

2. (Amended) A method in accordance with claim 1, comprising:

connecting between said node and said voltage source one or more additional switchably conductive devices each characterized by a respective threshold voltage different than said first threshold voltage, said second threshold voltage, and each other respective threshold voltage, each said one or more additional switchably conductive devices responsive to a respective input signal to allow current conduction from said voltage source to said node when said respective input signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater

than said respective threshold voltage and to disallow said current conduction when said respective input signal is offset from said voltage source by a voltage less than said respective threshold voltage; and

connecting said driving signal as said respective input signal of said respective switch of each of said respective one or more additional switchably conductive devices.

3. (Amended) An apparatus for reducing the slew rate of transition edges of a digital signal on a node of an integrated circuit, comprising:

a first switchably conductive device characterized by a first threshold voltage, said first switchably conductive device connected between said node and a voltage source and responsive to a driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said first threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said first threshold voltage; and

a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage, said second switchably conductive device connected between said node and said voltage source and responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said second threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said second threshold voltage.

5. (Amended) An apparatus in accordance with claim 3, comprising:

one or more additional switchably conductive devices each characterized by a respective threshold voltage different than said first threshold voltage, said second threshold voltage, and each other respective threshold voltage, each said one or more additional switchably conductive devices connected between said node and said voltage source and responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said

voltage source by a voltage substantially equal to [or] <u>and</u> greater than said respective threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said respective threshold voltage.

7. (Twice Amended) A method for controlling the slew rate of transition edges of a digital signal on a node of an integrated circuit, said method comprising the steps of:

driving, with a driving signal, a first switchably conductive device characterized by a first threshold voltage and connected between said node and a voltage source, said first switchably conductive device responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said first threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said first threshold voltage;

driving, with said driving signal, a second switchably conductive device characterized by a second threshold voltage greater than said first threshold voltage and connected between said node and said voltage source, said second switchably conductive device responsive to said driving signal to allow current conduction from said voltage source to said node when said driving signal is offset from said voltage source by a voltage substantially equal to [or] <u>and</u> greater than said second threshold voltage and to disallow said current conduction when said driving signal is offset from said voltage source by a voltage less than said second threshold voltage.